

Title: When I Grow Up, I Want To.....

Brief Overview:

Students will use a local newspaper to research and select a job, home, and car. Students will use these choices and the concepts of percents, positive and negative numbers, and evaluating algebraic expressions to develop a monthly income and expense report. The students will determine the reasonableness of their selections and present a budget summary to the class.

Links to Standards:

- **Mathematics as Problem Solving**

Students will demonstrate their ability to solve mathematical problems by deciding which elements of their budget are reasonable and which are not.

- **Mathematics as Communication**

Students will demonstrate their ability to communicate mathematically by writing and presenting a budget summary to the class.

- **Mathematics as Reasoning**

Students will demonstrate their ability to make decisions about which job, home, and car to purchase based on calculations and budget restrictions.

- **Mathematical Connections**

Students will demonstrate their ability to apply math skills to finance. Students will also demonstrate their ability to enhance public speaking skills.

- **Number and Number Relationships**

Students will demonstrate their ability to use numbers as positive and negative integers. They will also demonstrate their ability to calculate using percents and decimals.

- **Computation and Estimation**

Students will demonstrate their ability to add, subtract, and multiply decimals and integers. They will also solve problems involving money and determine if their solutions are reasonable.

- **Algebra**

Students will demonstrate their ability to evaluate algebraic expressions.

- **Statistics**

Students will demonstrate their ability to collect, organize, display, and interpret data using newspapers and graphs.

Grade/Level:

Grades 6-10

Duration/Length:

This activity should take 5 days including assessment. The activities may take longer than anticipated depending on class duration and student's prior knowledge.

Prerequisite Knowledge:

Students should have working knowledge of the following skills:

- Estimating, rounding and place value
- Evaluating algebraic expressions
- Calculating with decimals and percents
- Operating with positive and negative numbers
- Organizing and displaying data graphically

Objectives:

Students will:

- research and collect data.
- represent data graphically.
- make accurate calculations using money.
- make decisions based on budgetary constraints.
- submit a written and oral budget summary.

Materials/Resources/Printed Materials:

- Local newspaper
- Calculator
- Worksheets 1-4
- Budget summary sheet
- Extension activity sheet (optional)

Development/Procedures:**Day 1:**

- Students should come to class with a current newspaper (possible homework assignment from the previous day).
- Open a discussion “What do you want to be when you grow up?” , “Why?”
- Present the project to the class. Allow students enough time to clarify any questions they may have.
- Familiarize the students with their local newspaper.
- Allow students time to research their top 5 job, home, and car choices from the newspaper.
- Distribute worksheet 1 (complete for homework if necessary).

Day 2:

- Conduct a class survey of “dream job” selections. Represent the class data graphically (i.e. bar graph or line plot) on the chalkboard. Identify any trends that may appear. An additional survey for “dream cars” and “dream homes” is optional.

- Distribute calculators.
- Demonstrate how to calculate monthly income to the class. Allow enough time for the students to calculate their own.
- Distribute worksheet 2. Review directions and vocabulary (i.e. finance charge and annual percentage rate).
- Model for the students how to finance a car for 3 years. Allow students enough time to clarify any questions they may have.
- Ask the students to finance the same car for 4 years in order to assess their understanding. Allow enough time for peer sharing. (Optional: finance the same car for 5 years if additional practice is needed).
- Ask the students to complete worksheet 2 using their “dream car.” Use a standard annual percentage rate (for example 8%) for 3,4, and 5 years. Finish for homework if needed.

Day 3:

- Review material from the previous day. Answer questions as needed.
- Distribute calculators.
- Distribute worksheet 3. Review directions and vocabulary (i.e. mortgage).
- Model for the students how to finance a house for 10 years. Allow students enough time to clarify any questions they may have.
- Ask the students to finance the same house for 20 years in order to assess their understanding. Allow enough time for peer sharing. (Optional: finance the same house for 30 years if additional practice is needed).
- Ask the students to complete worksheet 3 using their “dream home.” Use a standard annual percentage rate (for example 8%) for 10, 20, and 30 years. Finish for homework if needed.

Day 4:

- Review material from the previous day. Answer questions as needed.
- Distribute calculators.
- Distribute budget summary. Students will use prior calculations in order to discuss the “reasonableness” of their “dream life.”
- Distribute worksheet 4 (summary writing assignment).
- Have students prepare a presentation of their findings for homework (displays are optional).

Day 5:

- Select students at random to present their findings.

Performance Assessment:

Score Point 3

Student participated each day .
Student showed clear understanding of financing.
Student made accurate calculations.
Student wrote a clear budget summary that supported his/her findings.
Students presentation reflected time and creativity.

Score Point 2

Student participated most of the time.
Student showed an understanding of financing.
Student made some inaccurate calculations.
Student wrote a budget summary that supported his/her findings.
Students presentation was satisfactory.

Score Point 1

Student participated some of the time.
Student showed an unclear understanding of financing.
Student's calculations were mainly incorrect.
Student's budget summary was unsatisfactory or incomplete.
Student's presentation was unsatisfactory.

Score Point 0

Student did not participate.
Student showed no understanding of financing.
Student made minimal calculations.
Student's budget summary was incomplete.
Student did not make a presentation.

Extension/Follow Up:

- Ask the students how changing the annual percentage rate from a standard annual percentage to a varying annual percentage based on the number of years of financing would change their budget? For example, finance for 3 years at 5%, finance for 4 years at 7.5%, finance for 5 years at 10%.

Teacher Note: Use your own method for determining annual percentage rates.

- Guide the students through the project reflecting the above change.
- Have the students create a circle graph representing their income distribution.

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Worksheet #1

Job Selection

Description

- 1.
- 2.
- 3.
- 4.
- 5.

Salary

- 1.
- 2.
- 3.
- 4.
- 5.

Car Selection

Model

- 1.
- 2.
- 3.
- 4.
- 5.

Cost

- 1.
- 2.
- 3.
- 4.
- 5.

Home Selection

Description

- 1.
- 2.
- 3.
- 4.
- 5.

Cost

- 1.
- 2.
- 3.
- 4.
- 5.



Final Selections:

Job: _____ Salary: _____
Car: _____ Cost: _____
Home: _____ Cost: _____

Worksheet #2

Most people can not afford to pay cash for their car, so they finance it. Financing your car (taking a loan) allows you to put down less cash, but you will need to make monthly payments that include interest. This will increase the cost you pay for your car. You can approximate the finance charge you will have for a loan by using the following formula:

$$\text{FINANCE CHARGE} = \frac{A(N+1)(R)}{2P}$$

A = the amount of money borrowed

N = the total number of payments

R = the annual percentage rate

P = the number of payments per year

Today, you will decide on whether to take a 3-year, 4-year, or 5-year loan to finance your car.

	3-year	4-year	5-year
Amount of Loan			
Finance Charge			
Total Cost			
Monthly Payment			



Worksheet #3

Most people can not afford to pay cash for their home, so they finance it. Financing your home (taking a loan) allows you to put down less cash, but you will need to make monthly payments that include interest. This will increase the cost you pay for your home. You can approximate the finance charge you will have for a loan by using the following formula:

$$\text{FINANCE CHARGE} = \frac{A(N+1)(R)}{2P}$$

A = the amount of money borrowed

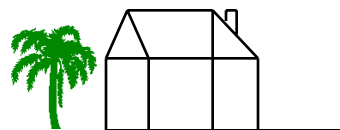
N = the total number of payments

R = the annual percentage rate

P = the number of payments per year

Today, you will decide on whether to take a 10-year, 20-year, or 30-year loan to finance your house.

	10-year	20-year	30-year
Amount of Loan			
Finance Charge			
Total Cost			
Monthly Payment			



Name _____

Worksheet #2
(Extension)

Most people can not afford to pay cash for their car, so they finance it. Financing your car (taking a loan) allows you to put down less cash, but you will need to make monthly payments that include interest. This will increase the cost you pay for your car. Generally, the longer the length of the loan, the higher the annual interest rate will be. You can approximate the finance charge you will have for a loan by using the following formula:

$$\text{FINANCE CHARGE} = \frac{A(N + 1)(R)}{2P}$$

A = the amount of money borrowed

N = the total number of payments

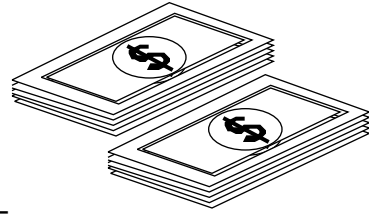
R = the annual percentage rate

P = the number of payments per year

Today, you will decide on whether to take a 3-year, 4-year, or 5-year loan to finance your car.

	3-year @5%	4-year @7.5%	5-year @10%
Amount of Loan			
Finance Charge			
Total Cost			
Monthly Payment			

Budget Summary



Income : _____

Expenses:

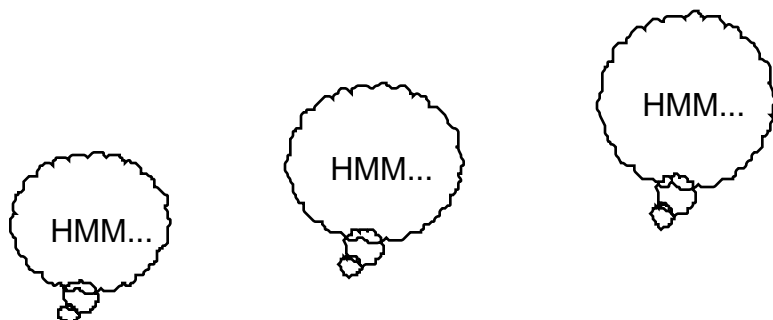
ITEM	COST

Total Monthly Income:_____

Total Monthly Expenses:_____

Worksheet #4

Name: _____



Use the previous information to write about the following situation.

Suppose you are getting ready to graduate and move out on your own. Write a letter to your parents explaining what you will need in order to live comfortably on your own.

Before you write, think about the kind of job that you would like to have and the amount of money that you can earn doing it. Think about the kind of car that you would like to drive and the amount of money that you can allot for it. Think about the type of house that you would like to rent or buy. Think about how realistic your choices are based on your needs/wants beyond housing and vehicles.

Now, write a letter to your parents explaining what you will need to do in order to live comfortably on your own.
